NOTE: The document identifier and heading has been changed on this page to reflect that this is a performance specification. There are no other changes to this document. The document identifier on subsequent pages has not been changed, but will be changed the next time this document is revised.

INCH-POUND

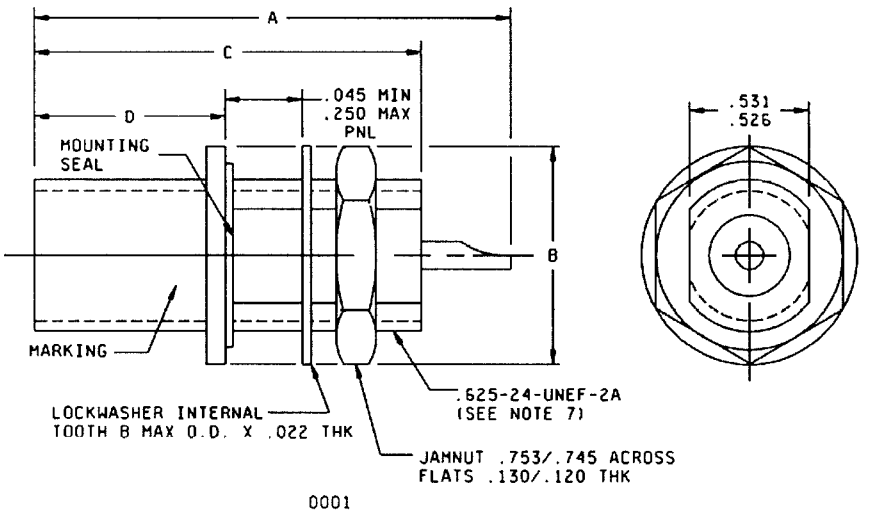
MIL-PRF-39012/4D
26 September 1994
SUPERSEDING
MIL-C-39012/4C
26 April 1974

PERFORMANCE SPECIFICATION SHEET

CONNECTORS, COAXIAL, RADIO FREQUENCY
(SERIES N (UNCABLED) - RECEPTACLES - JAM NUT AND
FLANGE MOUNTED, SOCKET CONTACT, CLASS 2)

This specification is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet and the issue of the following specification listed in that issue of the Department of Defense Index of Specifications and Standards (DODISS) specified in the solicitation: MIL-PRF-39012.



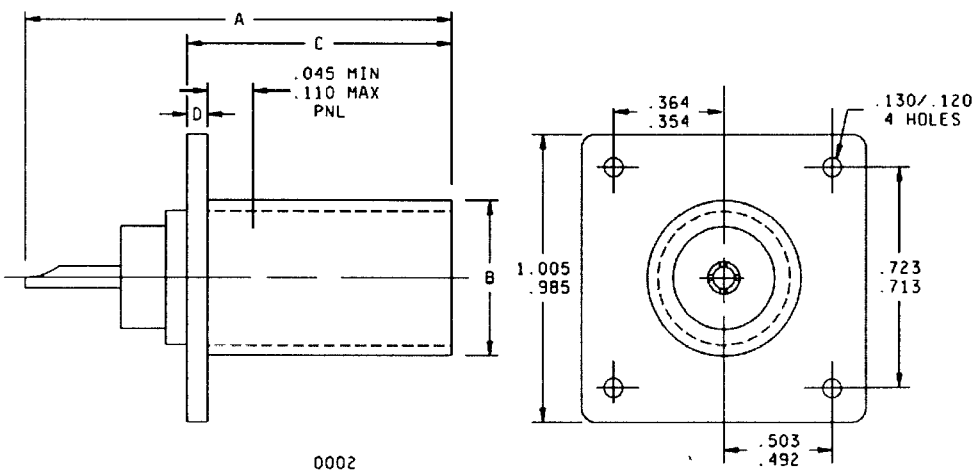
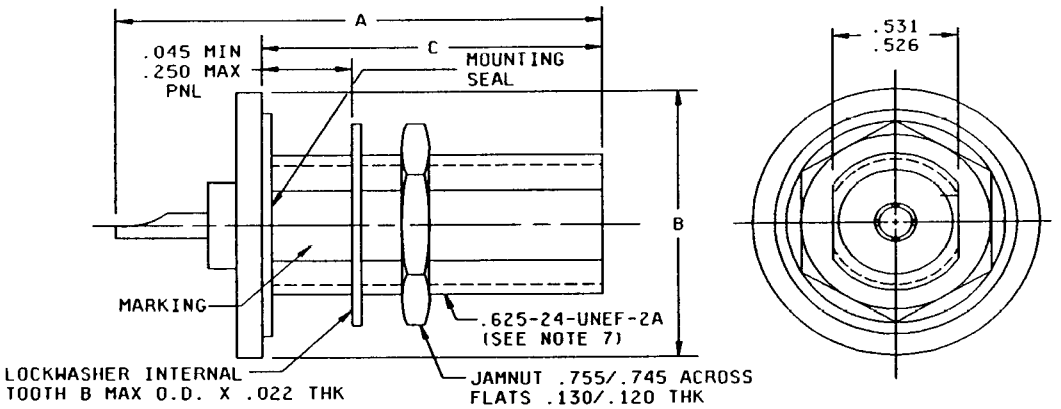
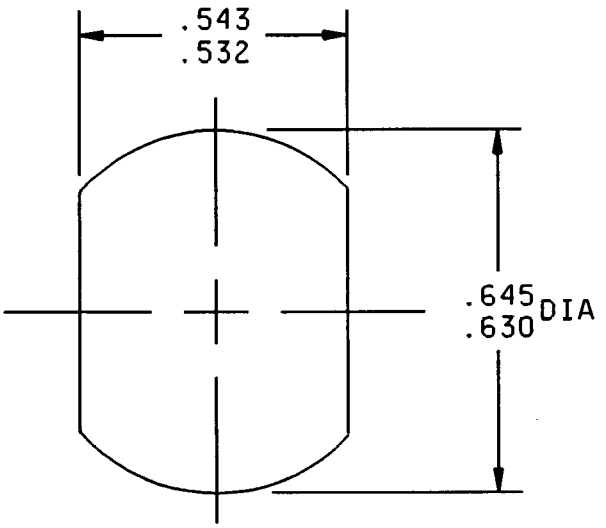


FIGURE 1. General configuration.





SUGGESTED MTG HOLE DIMENSION
FOR 0001 AND 0003

FIGURE 1. General configuration - Continued.

Inches	mm	Inches	mm
.022	0.56	.532	13.49
.110	2.79	.543	13.79
.120	3.05	.625	15.88
.130	3.30	.630	16.00
.250	6.35	.645	16.38
.354	8.99	.713	18.11
.364	9.25	.723	18.36
.492	12.50	.745	18.92
.503	12.78	.755	19.18
.526	13.36	.985	25.02
.531	13.49	1.005	25.53

NOTES:
1. Dimensions are in inches.
2. Metric equivalents are given for information only.
3. See table I for dimensions A, B, C, and D.
4. Dimensions A and B are the largest overall dimensions of the receptacles expect the flange height and width on dash number 0002.
5. All undimensional pictorial representations are for reference purpose only.
6. Receptacle number -0002 not recommended for use on panels with greater than .071 (1.80) max thickness.
7. Full threads to within .063 (1.60 mm) of shoulder; 1 1/2 max uneven threads to shoulder.
8. There shall be a solid barrier in the socket between the pin entry and the solder pocket to prevent solder wicking.

FIGURE 1. General configuration - Continued.

TABLE I. Dash numbers and characteristics.

Dash number 1/	Type	Dimension	Inches (millimeters) 2/	
			Min	Max
0001 3/	Bulkhead (front mounted - hermetic sealed)	A	---	1.750 (44.45)
		B	---	.885 (22.48)
		C	1.125 (25.40)	1.250 (31.75)
		D	.702 (17.83)	.721 (18.08)
0002 3/	Flange (rear mounted)	A	1.062 (26 97)	1.156 (26.36)
		B	.620 (15.65)	.670 (17.02)
		C	.721 (18.31)	.751 (19.08)
		D	.075 (1.91)	.085 (2.16)
0003 3/	Bulkhead (rear mounted)	A	---	1.343 (34.11)
		B	.850 (21.59)	.900 (22.86)
		C	.912 (23.16)	.940 (23.88)

1/ For cross-reference of dash number to superseded Part or Identifying Number (PIN) or type designation, see table III.

2/ Millimeters are in parentheses.

3/ These connectors have captivated center contacts.

ENGINEERING DATA:

Nominal impedance: 50 ohms.

Frequency range: 0 to 11,000 MHz.

Voltage rating:

1,000 volts rms maximum working voltage at sea level.

250 volts rms maximum at 70,000 feet.

Temperature ratings: -65°C to +165°C.

REQUIREMENTS:

Dimensions and construction: See figure 1.

Force to engage and disengage:

Longitudinal force: Not applicable.

Torque: 6 inch-pounds maximum.

Coupling proof torque: Not applicable.

Inspection conditions:

Coupling torque: 6 to 10 inch-pounds.

Mating characteristics: See MIL-STD-348.

Contact with spring members:

Center contact (sockets):

Oversize test pin: .074 diameter minimum (non-closed entry contacts only).

Insertion depth: .125 minimum.

Number of insertions: 1.

Insertion force test: Steel test pin dia .066 minimum.

Test pin finish: 16 microinches.

Insertion force: 2 pounds maximum.

Withdrawal force test: Steel test pin dia .063 maximum.

Withdrawal force: 2 ounces minimum.

Test pin finish: 16 microinches.

Hermetic seal: Applicable to M39012/04-0001. Leakage shall not exceed 1 x 10^{-7} cm^3/s of tracer gas at atmospheric pressure.

Leakage (pressurized connectors): Applicable to M39012/04-0001 and M39012/04-0003. The receptacle shall be mounted in its normal manner on a closed container with the mating end capped. Container interior air pressure shall be 30 psi.

Insulation resistance: Method 302, test condition B, MIL-STD-202. 5,000 megohms minimum.

Center contact retention: 6 pounds minimum axial force.

Corrosion (salt spray): Method 101, test condition B, MIL-STD-202.

Voltage standing wave ratio (VSWR): Not applicable.

Connector durability: 500 cycles at 12 cycles per minute maximum. The connector shall meet the mating characteristics and force to engage and disengage requirements.

Contact resistance: In milliohms maximum.

M39012/04-0001	Initial	After environment
Center contact	4.0	5.0
Outer contact	.2	Not applicable
M39012/01-0002 M39012/04-0003		
Center contact	1.0	1.5
Outer contact	.2	Not applicable

Dielectric withstanding voltage: Method 301 of MIL-STD-202. 2,500 volts rms minimum at sea level.

Vibration, high frequency: Method 204, test condition B, MIL-STD-202.

Shock: Method 213 of MIL-STD-202, test condition I.

Temperature cycling: Method 102, test condition C, MIL-STD-202 except test high temperature shall be 85°C. High temperature shall be ±200°C.

Thermal shock: Method 107 of MIL-STD-202, test condition B, except test high temperature shall be +85°C. High temperature shall be +200°C for connectors using +200°C cables (see table I and III).

Moisture resistance: Method 106 of MIL-STD-202. No measurements at high humidity. Insulation resistance shall be at least 200 megohms within 5 minutes after removal from humidity.

Corona level: Not applicable.

RF high potential withstanding voltage:

Voltage and frequency: 1,500 volts rms at 5 MHz.

Leakage current: Not applicable.

Cable retention force: Not applicable.

Coupling mechanism retention force: Not applicable.

RF leakage: Not applicable.

Insertion loss: Not applicable.

Part or Identifying Number (PIN): M39012/04-(dash number from table I).

Group qualification: See table II.

Cross-reference information: See table III.

TABLE II. Group qualification.

Group	Submission and qualification of any of the following connectors	Qualifies the following connectors
I	M39012/04-0001	M39012/04-0001
II	M39012/04-0002	M39012/04-0002
III	M39012/04-0003	M39012/04-0003

NOTE: If a connector manufacturer produces a connector which meets all the requirements for two or more connector PIN (within the same series), the manufacturer may receive qualification approval for two or more connector PIN by qualifying the one connector. It is not necessary that such connectors be in the same group. Each connector, however, must be marked with its own appropriate PIN. For group qualification, the connectors must be of similar design.

TABLE III. Cross-reference of PIN.

PIN	Substitute for PIN or type designation 1/
M39012/04-0001	MS90531-680A
M39012/04-0002	UG-58/U
M39012/04-0003	---

1/ The superseded PIN or the type designation is for cross-reference only. Where a superseded PIN or type designation is not given, none was assigned or will be assigned. The PIN M39012/04-XXXX shall be used in all cases for marking and identifying the connector.

Revision letters are not used to denote changes due to the extensiveness of the changes.

CONCLUDING MATERIAL

Custodians:
Army - CR
Navy - EC
Air Force - 85
NASA - NA

Review activities:
Army - AT, AV, CR, MI
Navy - AS, MC, OS, SH
Air Force - 11, 19, 80

Preparing activity:
DLA - ES

(Project 5935-3932-04)